預備知識

作業零 (機率統計、線性代數、微分之基本知識)

## 參考書籍

Learning from Data: A Short Course, Abu-Mostafa, Magdon-Ismail, Lin, 2013.

## 經典文獻

- F. Rosenblatt. The perceptron: A probabilistic model for information storage and organization in the brain. Psychological Review, 65(6):386-408, 1958. (第二講: Perceptron 的出處)
- W. Hoeffding. Probability inequalities for sums of bounded random variables. Journal of the American Statistical Association, 58(301):13–30, 1963. (第四講: Hoeffding's Inequality)
- Y. S. Abu-Mostafa, X. Song, A. Nicholson, M. Magdon-ismail. The bin model, 1995. (第四講: bin model 的出處)
- V. Vapnik. The nature of statistical learning theory, 2nd edition, 2000. (第五到八講: VC dimension 與 VC bound 的完整數學推導及延伸)
- Y. S. Abu-Mostafa. The Vapnik-Chervonenkis dimension: information versus complexity in learning. Neural Computation, 1(3):312-317, 1989. (第七講: VC Dimension 的概念與重要性)

## 參考文獻

- A. Sadilek, S. Brennan, H. Kautz, and V. Silenzio. nEmesis: Which restaurants should you avoid today? First AAAI Conference on Human Computation and Crowdsourcing, 2013. (第一講: ML 在「食」的應用)
- Y. S. Abu-Mostafa. Machines that think for themselves. Scientific American, 289(7):78-81, 2012. (第一講: ML 在「衣」的應用)
- A. Tsanas, A. Xifara. Accurate quantitative estimation of energy performance of residential buildings using statistical machine learning tools. Energy and Buildings, 49: 560-567, 2012. (第一講: ML 在「住」的應用)
- J. Stallkamp, M. Schlipsing, J. Salmen, C. Igel. Introduction to the special issue on machine learning for traffic sign recognition. IEEE Transactions on Intelligent Transportation Systems 13(4): 1481-1483, 2012. (第一講: ML 在「行」的應用)
- R. Bell, J. Bennett, Y. Koren, and C. Volinsky. The million dollar programming prize. IEEE Spectrum, 46(5):29-33, 2009. (第一講: Netflix 大賽)
- S. I. Gallant. Perceptron-based learning algorithms. IEEE Transactions on Neural Networks, 1(2):179-191, 1990. (第 二講: pocket 的出處, 注意到實際的 pocket 演算法比我們介紹的要複雜)
- R. Xu, D. Wunsch II. Survey of clustering algorithms. IEEE Transactions on Neural Networks 16(3), 645-678, 2005. (第三講: Clustering)

12/11/2017 延伸閱讀 | Coursera

- X. Zhu. Semi-supervised learning literature survey. University of Wisconsin Madison, 2008. (第三講: Semi-supervised)
- Z. Ghahramani. Unsupervised learning. In Advanced Lectures in Machine Learning (MLSS '03), pages 72–112, 2004. (第三講: Unsupervised)
- L. Kaelbling, M. Littman, A. Moore. reinforcement learning: a survey. Journal of Artificial Intelligence Research, 4: 237-285. (第三講: Reinforcement)
- A. Blum. On-Line algorithms in machine learning. Carnegie Mellon University, 1998. (第三講: Online)
- B. Settles. Active learning literature survey. University of Wisconsin Madison, 2010. (第三講: Active)
- D. Wolpert. The lack of a priori distinctions between learning algorithms. Neural Computation, 8(7): 1341-1390. (第四講: No free lunch 的正式版)
- T. M. Cover. Geometrical and statistical properties of systems of linear inequalities with applications in pattern recognition. IEEE Transactions on Electronic Computers, 14(3):326–334, 1965. (第五到六講: Growth Function)
- B. Zadrozny, J. Langford, N. Abe. Cost sensitive learning by cost-proportionate example weighting. IEEE International Conference on Data Mining, 2003. (第八講: Weighted Classification)